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ABSTRACT

This paper describes an attempt to introduce 33 education majors to the concept of cooperative learning as a teaching method they may use when they are classroom teachers. The benefits of cooperative learning for young students are briefly discussed, and an explanation is given of the "Student Teams Achievement Divisions" (STAD) system of grade keeping in group experiences. The experiment with the six teams of students in their sophomore or higher level of college was evaluated by the students as a good learning experience. Problems that arose in the groups are described; it is noted that these problems were similar to those a teacher would find in an elementary or secondary classroom. A 15-item bibliography is included. (JD)

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Learning by Doing -- Cooperative Learning in the College Classroom

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Schools play a critical part in the socialization of students as they prepare them for appropriate adult roles. However, the majority of those roles in the working world are of a cooperative nature. American classrooms place students in competition with one another and offer few opportunities to learn the strategies needed to participate in groups. If students are not members of a team in a sport such as basketball or football they may never experience the need to work for a common goal.

Cooperative learning, now being used in many schools, allows a student to learn the rules of group work and experience the interdependence necessary for success. Such positive interdependence exists when students perceive that they are linked with groupmates in such a way that they cannot succeed unless their groupmates do (and vice versa) or that they must coordinate the efforts of their group to complete a task (Johnson and Johnson, 1991).

Cooperative learning has been found to have additional side benefits when used in the classroom. Not only do students learn the rules of effective group work but other relationships improve as well. It has been found that positive relationships depend on contact and cooperation invariably increases contact. When teachers use heterogeneous groups (race, SES, gender or ability) on a regular basis in their classrooms, relationships between children improve. This is the same for mainstreamed students (Slavin, 1983). Allowing students to work together in structured groups where each can contribute to the well-being of the group increases friendships for all students. Success in the group increases self-esteem and in many cases academic achievement.

While putting children into groups to do their work does not mean that children learn better, there are strategies that can be used that do increase performance. The teacher must get students to care about the

academic performance of their peers by making each student's reward dependent in part on the academic performance of their groupmates (Slavin, 1983). "Student Teams Achievement Divisions" (STAD) does just that. This method of score keeping allows even the lowest achieving student to contribute points toward a team score. The average of each students' last 3 grades provides a base score from which to start. Students can then calculate what score is necessary on the next test or paper for them to contribute from 1 to 3 points to the team score. Other methods also exist to help groupmates realize their individual performance is of utmost importance and therefore it is prudent to make sure everyone on the team does well.

Research has found that some children work better in cooperative situations than others. It is felt that possibly something in Black and Hispanic psychology or culture makes cooperation a more effective motivational system than competition for minority students (Slavin, 1983). For some Blacks the peer group is of greater importance than it is for white's. Therefore, black children's self-esteem may depend more on how they see themselves getting along with their peer group than how they are doing academically. The reverse may be true for whites.

Because research shows improvement in student achievement, friendships across race and handicapping conditions, and self-esteem, many teachers are implementing cooperative learning groups in their classrooms. Most of these teachers have either read about this strategy or attended a workshop or inservice where it was taught. Almost everyone has found that without the needed information, skills and much patience, it can be hard to use. Johnson, et al, (1984) suggest 5 strategies for a teacher to be successful:

1. Clearly specify the objectives for the lesson.
2. Select students for each group.

3. Explain the task, goal structure, and learning activity clearly to the students.
4. Monitor the effectiveness of each group and intervene when assistance is needed.
5. Evaluate students' achievement and help students discuss ways in which they successfully collaborated.

Many books and articles are available to help the interested teacher begin to use cooperative learning in his/her classroom.

While cooperative learning is well known and probably used throughout the United States, it was not easy to locate a good model and successfully show a group of 33 education majors the trials and benefits of using the method. Instead I decided to teach the concept of learning groups by using them in my Educational Psychology class beginning spring quarter 1990.

During the last four weeks of the quarter, I divided the class into 6 groups selecting students for each group so there was an even distribution of high achievers and leaders. At this level in college it was more important to divide those with better leadership skills than it was to consider academic ability. Prior to these last weeks the students had unknowingly been preparing for this group work by having other small group assignments, reflective teaching and microteaching tasks. Field assignments in local middle schools and junior highs also allowed the students to see the use or non-use of groups in the classroom.

Each group selected a team name and a large chart was constructed to keep track of points. Each student was arbitrarily given a set of 3 scores to use as a base score. Teams were made even by having low, middle, and high achieving scores represented in each group. Using STAD, each student calculated his/her base score. According to the rules of STAD a student could contribute up to 3 points by earning a grade of 10 points or more

above his/her base score. A student with an average of 100 would have to get 100 on the next test in order to receive 3 points. A low achiever with an average of 60 need only to improve to 70 in order to gain 3 points. Every few weeks test scores would be recalculated for a new base score so that students always worked for higher grades.

Group assignments and advance organizers were given to each group. Trial quizzes allowed students to see where they needed work and groupmates were responsible for seeing that everyone in the group was ready for the next quiz. The technique, Jigsaw, was used to demonstrate use of an integrated curriculum and groups presented their findings to the whole class.

Students evaluated the technique at the end of the quarter and everyone felt it was a good learning experience. However, problems arose in the groups that were very similar to those a teacher would find in an elementary or secondary classroom. Because these were sophomore or higher in college I made the mistake (like many teachers) that these students knew how to work together in groups. This was not the case. Many of these students had never worked in groups in their high schools and lacked the skills to effectively handle group work. Some people still dominated the group while other contributed little. However, the very experience of seeing the problems and trying to correct them helped the students to foresee the same problems that are likely to occur when they use the technique in their own classroom.

I believe that learning by doing is a successful way of teaching college students the skills needed to implement cooperative learning in the classroom. I learned some valuable lessons myself and now plan to begin with the assumption that college students may not possess the necessary skills needed for group work. I plan to teach those skills, as an

elementary teacher would, and allow time for more activities and interactions within the groups. Hopefully, my students will learn as they participate.

Competition disrupts interpersonal bonds even at the college level. There is a time and place for individual learning, competition, and cooperation. Learning to work in groups and be a team player is a necessary skill for teachers themselves as schools restructure and teachers take a role in group governance. Hopefully, my students will understand the importance of teaching cooperative skills not only for their children but for themselves. Perhaps they will be better team players in their schools because of the experience. By allowing these students and the children in our schools to participate in cooperative learning models, perhaps the results will eventually be more cooperative parents, workers, business people and future leaders of the world.

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STUDENT TEAMS-ACHIEVEMENT DIVISIONS
STAD

This system of grade keeping was developed by Robert Slavin and his associates to overcome the disadvantages of the cooperative goal structure. The students are divided into teams of about 5 with a mix of abilities, ethnic backgrounds and sexes. The teacher calculates an "individual learning expectation score, or base score, for each team member. This score is based on previous work and represents the student's average level of performance.

Students work in their teams to study but quizzes and tests are taken individually. Based on test performance, each team member can earn from one to three points for his/her group. In this way every student has an equal chance to contribute the maximum number of points to the team total. Thus, every student, not just the most able or motivated, has reason to work hard. In this way the problem of students' unequal contributions to a group project is avoided. Every week the group earning the greatest number of points can be declared the winner. Every few weeks the teams can be changed so that students have a chance to work with many different class members.

Every two weeks or so the teacher must recompute the base score (or the students can do it themselves) with grades on the recent tests. With this system, improvement pays off for all students. Those with less ability can still earn the maximum for their team by scoring ten or more points above their own base score. Those with greater ability are still challenged because they must score well above their own average or make a perfect score to contribute the maximum to the group total.

CALCULATING AN ILE (Individual Learning Expectation) SCORE: Average the student's grades or test scores from previous work. Letter grades can be converted to points based on the school's system. The student's average score is now used as a base score. The ILE score becomes the standard for judging each student's work.

EARNING POINTS IN THE STAD SYSTEM:

TEST SCORE	POINTS EARNED FOR GROUP
A perfect score	3
10 or more points above base score	3
5 to 9 points above base score	2
4 points below to 4 points above base score	1
5 or more points below base score	0